

## CLAIMS

We claim:

1. A method for using ATM AAL2 switching within a wireless access gateway,

5 comprising the steps of:

providing AAL2 CID (channel identifier) switching in a wireless access gateway, the wireless access gateway having a plurality of transcoders, the plurality of transcoders having a subset of transcoders that are available transcoders;

10 switching a call to any one respective transcoder of available transcoders;

and

transcoding the call from a first format to a second format in the respective transcoder.

- 15 2. The method according to claim 1, wherein the switching of the call to any one

respective transcoder of available transcoders is a function of at least one

predetermined parameter, and wherein the at least one predetermined

parameter comprises at least one of a state of each respective transcoder, and a

current load on the plurality of transcoders.

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3. The method according to claim 1, wherein the switching of the call to any one

respective transcoder of available transcoders is on an as needed basis.

4. A method for using ATM AAL2 switching within a wireless access gateway,  
comprising the steps of:

terminating a plurality of external AAL2 PVCs at an intermediate node;

setting up a set of internal AAL2 PVCs between the intermediate node and

5 a set of transcoders that form a plurality of DSP (digital signal processor)  
channels;

allocating a respective DSP channel, of the plurality of DSP channels for a  
call as a function of at least one predetermined parameter; and

instructing the intermediate node to switch individual AAL TYPE 2 CPS-

10 packets of the new call from an external AAL2 PVC of the plurality of

external AAL2 PVCs to an internal PVC of the set of internal AAL2 PVCs.

5. The method according to claim 4, wherein at least one predetermined  
parameter comprises at least one of a state of the transcoders, a current load on  
15 the transcoders, and a state of the internal AAL2 PVCs.

6. The method according to claim 4, wherein the individual AAL TYPE 2 CPS-  
packets of the new call from the external AAL2 PVC of the plurality of  
external AAL2 PVCs to the internal PVC of the set of internal AAL2 PVCs at  
20 the CPS layer of AAL2 on an as needed basis.

7. A method for using ATM AAL2 switching within a wireless access gateway,

comprising the steps of:

providing AAL2 CID switching in a wireless access gateway, the wireless access gateway having a plurality of DSPs acting as transcoders for digital representation of speech;

switching individual packets of a call to any one respective DSP of available DSPs, the available DSPs being a subset of the plurality of DSPs: and

transcoding the packets of the call in the respective DSP from a first

encoding to a second encoding.

8. The method according to claim 7, wherein the switching of individual packets

to any one respective DSP of available DSPs is a function of at least one predetermined parameter, and wherein the at least one predetermined parameter comprises at least one of a state of the each of the transcoders, and a current load on the plurality of transcoders.

9. The method according to claim 7, wherein the switching of individual calls to

any one respective DSP of available DSPs is on an as needed basis.

10. A method for using ATM AAL2 switching within a wireless access gateway,  
comprising the steps of:

allocating individual CIDs to transcoder channels on an as needed basis

without a fixed relationship between external PVCs and transcoder channels;

5       transcoding the call in the respective transcoder channel from a first format  
to a second format; and

establishing a substantially even distribution of calls among the  
transcoders irrespective of any uneven call load on the external PVCs.

10      11. The method according to claim 10, wherein the allocating of individual CIDs  
to transcoder channels is a function of at least one predetermined parameter,  
and wherein the at least one predetermined parameter comprises at least one of  
a state of the each of the transcoders, and a current load on the all of the  
transcoders.

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12. A system for using ATM AAL2 switching within a wireless access gateway,

comprising:

a plurality of external AAL2 PVCs;

a plurality of internal AAL2 PVCs;

5 a plurality of transcoders;

at least one intermediate node operatively connected to the external AAL2 PVCs and to the internal AAL2 PVCs;

a packet switch control operatively connected to the at least one intermediate node, the plurality of internal AAL2 PVCs and the transcoders;

10 and

wherein based upon an algorithm that takes into account at least a current state of each of the transcoders and a current load of all of the transcoders, the switch controller instructs the at least one intermediate node to switch individual AAL2 CPS-Packets from the external AAL2 PVCs to the internal AAL2 PVCs.

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13. A method for using ATM AAL2 switching within a wireless access gateway,  
comprising the steps of:

providing AAL2 CID switching in a wireless access gateway, the wireless  
access gateway having a plurality of DSPs acting as transcoders for digital  
representation of speech;

switching individual digital representations of speech of a call to any one  
respective DSP of available DSPs, the available DSPs being a subset of the  
plurality of DSPs; and

transcoding the digital representations of speech of the call in the  
respective DSP from a first encoding to a second encoding.

14. The method according to claim 13, wherein the switching of individual digital  
representations of speech to any one respective DSP of available DSPs is a  
function of at least one predetermined parameter, and wherein the at least one  
predetermined parameter comprises at least one of a state of the each of the  
15 DSPs, and a usage level of the DSPs.

15. The method according to claim 13, wherein the switching of individual digital  
representations of speech to any one respective DSP of available DSPs.